

REMARKS

In the Final Office Action mailed on October 29, 2007, all claims have also been rejected as obvious over a variety of references. These rejections are submitted to be improper, and reconsideration of the same is requested.

A. SUMMARY OF ARGUMENTS

Independent claim 1 is rejected as obvious under 35 U.S.C. §103(a) over Shaffer et al. (U.S. 6,775,247) in view of Kuthyar et al. (U.S. 6,075,571) and in further view of Novaes (U.S. 7,009,971). Independent claim 20 is rejected over these references in further view of Ho (U.S. 7,151,762). Independent claim 21 is rejected as obvious over Shaffer in view of Noveas, and independent claim 26 further in view of Ho. It is requested that these rejections be reconsidered for the following reasons:

- It is improper to combine Shaffer with Kuthyar because they contradict one another. Shaffer teaches that it is desirable to send *only a single stream* to attendees (to achieve reduced bandwidth and other consumption as compared to sending multiple streams). See Shaffer at col. 3, lines 34 - 46. Kuthyar, in contrast, is cited in the Office Action as disclosing the transmission of *multiple streams* to each user (although Kuthyar does not in fact disclose this, as discussed below).
- Noveas is cited as disclosing sending a primary stream at a low bandwidth while simultaneously sending other, higher bandwidth streams. Noveas does not disclose this, however, and instead teaches sending the *same single stream* to all users at differing frame drop rates. See Noveas at col. 8, lines 59 to col. 9, line 3.
- Kuthyar is cited as disclosing sending multiple streams to each user. Kuthyar, however, teaches sending only a *single stream* to all users (which includes multiple images). See Kuthyar at col. 2, lines 11 - 15.
- When rejecting claims 1 and 20 the Office Action properly acknowledges that Shaffer fails to disclose sending multiple streams to each user. However, when rejecting claims 21 and 26, the Office Action apparently contradicts itself and incorrectly cites Shaffer as disclosing the transmission of multiple streams to each user.

These and other reasons for withdrawing the rejections are discussed in detail herein below.

B. THE §103 REJECTIONS OF CLAIMS 1 AND 20 ARE IMPROPER AND SHOULD BE WITHDRAWN

Independent claim 1 has been rejected as obvious over Shaffer in view of Kuthyar and Novaes. Independent claim 20 has been rejected over these references and further in view of Ho. It is requested that these rejections be reconsidered for the following reasons.

B.(1) IT IS IMPROPER TO COMBINE SHAFFER WITH THE CONTRADICTORY KUTHYAR

Claim 1 requires, among other elements, communicating a plurality of first video data streams to each of a plurality of standard users. Similarly, claim 20 requires each of a plurality of standard users to receive multiple audio and video data streams. In rejecting these claims, the Final Action admits that Shaffer fails to disclose this required element but cites Kuthyar for this teaching. Accepting only for the sake of argument that Kuthyar teaches this, it is submitted that it is improper to combine the two references.

It is well established that references cannot be combined to support an obviousness rejection if they teach away from one another: “it is improper to combine references where the references teach away from their combination,” MPEP §2145 X.(D)(2) (citing *In Re Grasselli*, 713 F.2d 731, 743 (Fed. Cir. 1983)). Kuthyar and Shaffer teach away from one another, and therefore cannot be properly combined.

Accepting only for the sake of argument that Kuthyar teaches communicating a plurality of video streams to each standard user, this is directly contrary to Shaffer. Shaffer expressly teaches avoiding sending all streams to each video conference attendee and instead teaches commanding all users except for a single “dominant” user to suppress video communications: “the multimedia conference unit first determines which caller is a dominant caller. . . (and) then commands subordinate callers to suppress a portion of their signals passed over the network. ... (O)nly the dominant caller transmits video signals to the subordinate callers...” col. 2, lines 36-43. Shaffer teaches that this achieves reduced bandwidth and reduced load on the MCU as compared to communication of multiple streams

(as the Final Action alleges Kuthyar to disclose):

“The present invention utilizes much less network bandwidth with the resultant concomitant reduction in video MCU complexity and cost ... the MCU enables between it and the dominant user to receive the dominant video signal from the dominant user and then distribute it to other subordinate users. Thus reduced video streams (from users to the MCU) are required.”

Col. 3, line 34 – 46.

Shaffer therefore teaches that it is desirable to practice the opposite of what the Office Action cites Kuthyar as disclosing. One considering Shaffer would not be led to consider combining its teachings with the contradictory teachings of Kuthyar.

It is further submitted that modifying Shaffer (which teaches communication of only a single dominant video stream is desirable as compared to communicating multiple streams) through combination with Kuthyar (which is alleged to teach communication of multiple video streams to all users) would change the principle of operation of Shaffer. It is well established that it is improper to combine two references if the proposed modification of either reference changes the principle of operation that reference. MPEP 2143.01(VI).

For these reasons the combination of Shaffer and Kuthyar is improper, and it is requested that the obviousness rejection of claims 1 and 20 be reconsidered and withdrawn.

B.(2) KUTHYAR FAILS TO DISCLOSE COMMUNICATING MULTIPLE STREAMS TO EACH USER

Claim 1 requires, among other elements, that each of a plurality of virtual meetings standard users receive a plurality of first video data streams. Similarly, claim 20 requires each standard user receive video and audio data streams from all other standard users. The Final Office Action admits that Shaffer fails to disclose these elements, and instead cites Kuthyar for this. Putting aside the impropriety of combining these contradictory references as discussed above, it is further submitted that Kuthyar fails to disclose communicating a plurality of video streams to each conference user.

Instead, Kuthyar teaches combining or “ganging” a plurality of individual

video streams through a series of quad boxes into a *single combined image stream* which is then communicated to each of the users:

“The inventors have observed that if there were a way to successfully *combine the video streams from the different participants into a single video stream*, this would markedly reduce the number of lines and hardware required.”

col. 2, lines 11-15. (emphasis added). Also,

Applying the instant invention, the combined image stream generated as output from the first quad box can be combined with another image stream generated as output by a second quad box by sending both image streams to a third quad box. A third quad box combines the image streams from the first and second quad boxes into a *single combined image stream* and this ... is then sent to the selecting participant.”

col. 3, lines 13-20. (emphasis added).

This is an important difference from the claimed invention, which requires each standard user to receive a plurality of video data streams from each of the other standard users. Thus, no ganging or combination of streams into a “single combined stream” occurs as is taught by Kuthyar. Kuthyar’s combined stream does not allow for manipulation of individual streams as is possible within the invention of claims 1 and 20. The failure of Kuthyar to disclose this required element is another reason that the obviousness rejections of claims 1 and 20 are improper and must be withdrawn.

B.(3) NOVAES FAILS TO DISCLOSE COMMUNICATING A PRIMARY DATA STREAM TO A PRIMARY USER WHILE CONTINUING TO COMMUNICATE A PLURALITY OF FIRST VIDEO DATA STREAMS TO EACH OF A PLURALITY OF STANDARD USERS

Claim 1 requires, among other elements, communicating a primary video data stream to a primary user at a bandwidth that is less than the bandwidth simultaneously required to communicate a plurality of first video data streams to each of a plurality of standard users. Similarly, claim 20 requires communicating the at least one primary video and audio data stream to the primary user while continuing to communicate the plurality of first video and audio data streams to all of the plurality of users. The Final Action admits

that Shaffer and Kuthyar (either alone or in combination) fail to disclose or suggest this, and instead cites Novaes. It is submitted, however, that Noveas fails to disclose this. Instead of communicating a primary data stream to a primary user while simultaneously communicating a plurality of other streams to standard users, Novaes teaches communicating the *same single stream* to all users using differing frame drop rates.

Unlike the approach required by claims 1 and 20, Novaes teaches a method of dropping packets from the *same stream* to accommodate different bandwidths of users – users with large bandwidth capacity don’t drop any packets while other users with lower bandwidths drop packets from the *same stream*: “... it is possible for a subscriber to reconstruct the data stream at different rates. The subscribers which receive the multimedia stream at higher rates will be able to reconstruct the stream with better quality than the ones which subscribe to a lower rate.” col. 9, lines 10-13. Also;

This technique is demonstrated ... by an example which is related to the multi rate transmission of a *single data stream*. ... The subscribers to this data stream can specify the rate with which one receives the data packets. For example, a subscriber that wishes to receive all packets subscribes with a rate of 100 percent. A subscriber which wishes to receive every other packet, subscribes with a rate of 50 percent. The subscriber which wishes to receive every one in four packets, subscribes with a rate of 25 percent and so forth.

col. 8, line 59 to col. 9, line 3. (emphasis added).

Not only is Noveas’ teaching very different from the claimed invention – (Noveas teaches communicating the *same data stream* to all users at differing bandwidth rates), but further the teaching of Novaes will result in subscribers with limited bandwidth receiving a video stream at a *lower quality* than subscribers having higher bandwidth connections: “the subscribers which receive the multimedia stream at higher rates will be able to reconstruct the stream *with better quality* than the ones which subscribe to a lower rate,” col. 9, lines 10-13 (emphasis added). This disclosure confirms the well known conclusion that frame dropping when practiced on video data streams can result in undesirably choppy or jumpy video. Thus the teaching of Novaes, in addition to being significantly different from the required element of claims 1 and 20, can lead to an inferior

result as compared to the claimed invention.

It is submitted that this is another reason that the obviousness rejection of claims 1 and 20 be reconsidered and withdrawn.

C. THE §103 REJECTIONS OF CLAIMS 21 AND 26 ARE IMPROPER AND MUST BE WITHDRAWN

The rejections of independent claims 21 and 26 are improper for several reasons, including basing the rejection on a contrary interpretation of Shaffer.

C.(1) THE FINAL OFFICE ACTION MAKES CONTRADICTORY CITATIONS TO SHAFFER IN THE REJECTIONS OF CLAIMS 1 AND 20 AS COMPARED TO THE REJECTIONS OF CLAIMS 21 AND 26.

Independent Claim 21 requires, among other elements, that each of the standard users receive video and audio data from all others of the standard users. Similarly, independent claim 26 requires communicating a plurality of video data streams from each of a plurality of standard meeting attendees to all others of the standard attendees. The Final Office Action rejects claim 21 as obvious over Shaffer in view of Novaes, and rejects claim 26 as obvious over the same references further in view of Ho.

In making these rejections the Final Office Action suggests that Shaffer teaches that each of the standard users receives video data from all others of the standard users. As explained in detail in Amendment A and above, this is incorrect. Shaffer et al. teaches that each client receive only a single “dominant” video data stream - not a plurality of video data streams as is required (see, for example, Fig. 3A of Shaffer in which each client receives only stream video A originating from client 109).

Further, the Final Action admits that Shaffer does not disclose these required elements in its rejection of claim 1: “... Shaffer does not teach communicating each of the first video streams from each of the standard users to all others of the standard users ...” para. 7. Accordingly, the Final Office Action’s interpretation of Shaffer made in rejecting claims

21 and 26 is apparently contradictory to its admission of Shaffer's shortcomings in the rejection of claims 1 and 20. This is improper and the rejections of claims 21 and 26 must be withdrawn.

Finally, assuming that this improper rejection will be withdrawn, it is further submitted that Kuthyar cannot properly support an obviousness rejections of claims 21 and 26 for the same reasons as discussed above with regard to claim 1.

C.(2) NOVAES FAILS TO DISCLOSE REQUIRED ELEMENTS OF CLAIMS 21 AND 26.

The obviousness rejections of claims 21 and 26 are improper for other reasons as well. For example, claim 21 also requires that communication of the primary subset of data streams to the one or more primary users requires less bandwidth than communication of the plurality of real-time data streams to each of the standard users. Similarly, claim 26 requires that communication of the primary stream to the primary meeting attendee requires less bandwidth than communication of the plurality of real time data streams to each of the standard users.

The Final Office Action cites Noveas as disclosing these required elements. In its rejections of claims 21 and 26, the Final Action states: "Noveas teaches communication of the at least one primary stream to at least one primary meeting attendee requires less bandwidth than does communication of the plurality of first video data streams to each of the standard users." Paras. 11 and 13. As discussed above, it is submitted that this is incorrect.

Noveas does not disclose communicating a primary data stream to a primary user at a lower bandwidth while communicating a plurality of data streams to standard users using more bandwidth as the Final Action alleges. Instead, as discussed above, Noveas teaches sending the same data stream to multiple users but at different frame drop rates to accommodate different bandwidth capacities. Col. 9, lines 10-13. Further, as explained above, one skilled in the art would not look to Noveas since its teaching of frame dropping can lead to undesirably choppy or jumpy video.

D. SEVERAL DEPENDENT CLAIMS ARE ALLOWABLE ON INDEPENDENT GROUNDS

All of the independent claims are allowable for reasons set forth above. Dependent claims are therefore also allowable for the same reasons as are the independent claims from which they depend. Several dependent claims are allowable on independent grounds as well.

D.(1) SHAFFER FAILS TO DISCLOSE THE REQUIRED ELEMENTS OF CLAIM 5

Claim 5 depends from claim 1 and additionally requires steps of receiving the plurality of data streams from the plurality of standard users over a first interface and wherein the step of communicating the primary video data stream to the primary user is performed using a second interface while each of the at least one first video data streams from each of the plurality of standard users continues to be communicated to others of the standard users using the first interface. Accordingly, claim 5 requires two network interfaces simultaneously communicating video data: (1) a first network interface receiving and communicating a plurality of first video data streams from and to all of the standard users, and (2) a second interface communicating only the at least one primary stream to the primary user.

The Final Action cites Shaffer as disclosing this required element:

“Regarding claim 5, Shaffer teaches receiving a plurality of data streams over a first interface and communicating (the) primary data stream is done using a second interface *while each of at least one first video data stream from each of (the) plurality of first users continue to be communicated to other standard users* using (the) first interface.”

Para. 7. (emphasis added).

This interpretation of Shaffer, however, once again apparently contradicts the Final Office Action’s admission of Shaffer’s shortcomings made in the rejections of claims 1 and 20 when the Final Action admits that: “... Shaffer does not teach communicating each of

the first video streams from each of the standard users to all others of the standard users ...” para. 7. This apparent contradictory position is improper and the rejection of claim 5 must be withdrawn.

The Final Office Action further suggests that Shaffer discloses a second interface communicating a primary data stream to a primary user and cites Fig. 1A, elements 15B, 15C and 15D. It is submitted that this is also incorrect. Elements 15B, 15C and 15D represent the video data signals that can *potentially* be sent from PCs 12B, 12C and 12D. Shaffer teaches, however, that all of data streams 15B, 15C and 15D are suppressed and not sent to the MCU 12 during a conference – *only a single dominant video stream is received and communicated to all users*: “the multimedia conference unit first determines which caller is a dominant caller. . . (and) then commands subordinate callers to suppress a portion of their signals passed over the network. ... (O)nly the dominant caller transmits video signals to the subordinate callers...” col. 2, lines 36-43.

D.(2) SHAFFER FAILS TO DISCLOSE A PLURALITY OF VIDEO DATA STREAMS COMMUNICATED FROM EACH OF THE STANDARD USERS AS REQUIRED BY CLAIM 9

Claim 9 depends from claim 1 and further requires that the at least one first video data stream communicated from each of the standard users comprises a plurality of video data streams. That is, claim 9 requires that each standard user transmit a plurality of video data streams. The benefits of such multiple video stream embodiments are explained in the specification: “(t)he standard user A includes cameras 1, 2 and 3 that have been shown as elements 16, 18 and 20 respectively. These cameras may be trained on different people or things that the standard user A with an example being camera 1 at a blackboard, camera 2 at a speaker and camera 3 at an audience.” page 5, lines 23-27. See also Table 1 showing each standard user A, B, C and D communicating multiple outgoing data streams. Page 8.

In rejecting claim 9, the Final Action cites Shaffer’s video A and B streams shown in Fig. 3B. Importantly, however, *video A and B do not originate from the same user*. Fig. 3B clearly shows that video B originates with user B and video A originates with

user A. It is therefore requested that the rejection of claim 9 be reconsidered and withdrawn.

E. OTHER REJECTIONS AND REMARKS

The Final Office Action objected to claim 1 based on an informality in line 4. An amendment above addresses this informality as was recommended by the Final Action. Claims 1, 21, 26 and 30 were rejected under 35 U.S.C. § 112, second paragraph, as indefinite based on their recitation of “substantially.” These claims have been amended to remove the term “substantially.” It is submitted that these amendment overcome the § 112 rejection.

In considering the language of claims 1, 20, 21 and 26, it will be kept in mind that “each of a plurality of standard users” is not limited to each and every attendee at a virtual meeting. Thus, it is within the scope of pending claims, for example, that a virtual meeting include more than just “standard” and “primary” users. By way of one particular example, a third class or group of users, who are made up of one or more users who are neither standard user nor primary users, may be present. Accordingly, the “each of a plurality of standard users” language is not limited to, and cannot be interpreted to mean, all conference attendees.

CONCLUSION

In conclusion, it is submitted that:

- The rejections of independent claims 1 and 20 are improper because:
 - It is improper to combine Shaffer with the contradictory teachings of Kuthyar.
 - Kuthyar does not disclose communicating multiple streams to each standard user, but instead discloses communicating a single combined image stream.
 - Noveas teaches different rates of frame dropping on a single stream to accommodate different bandwidths, which is different than the claimed requirement.
- The rejections of independent claims 21 and 26 are improper because:


- The Final Action admits when rejecting claims 1 and 20 that Shaffer fails to disclose communicating a plurality of video data streams to standard users – but the Final Action then cites Shaffer as disclosing this very same element in rejecting claims 21 and 26. This contradictory position is improper.
- Noveas teaches frame dropping on a single stream to accommodate different bandwidth rates – this is very different from the claimed requirements.
- The Final Action admits that Shaffer fails to disclose communicating multiple video data streams to standard users in its rejection of claims 1 and 20, but then cites Shaffer as disclosing this same element to support its rejection of claim 5. This contradictory position is improper.
- Shaffer fails to disclose any user communicating more than one video data stream as is required by claim 9.

For all of the above reasons, Applicants request reconsideration of the rejections and allowance of the claims. Should the Examiner be of the opinion that a telephone conference would aid in the prosecution of the application, or that outstanding issues exist, the Examiner is invited to contact the undersigned.

Respectfully submitted,

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